

Surface-Mount Devices | 0603 Size

SRF0603LR Series

PTC Resettable Fuses

Features

- Resettable over current and over temperature protection
- Standard 0603mils footprint
- Fast time-to-trip
- RoHS compliant
- Low resistance



Applications

- USB peripherals including new USB 3.0 / 2.0 ports
- Li-ion / Li-Polymer battery packs
- Smart phones
- E-readers
- LCD / LED HDTV
- Tablet , Notebook PCs and Computer peripherals
- Digital cameras and video cameras
- Hard disk drives
- Game consoles



Electrical Characteristics

Part Number	I_H (A)	I_T (A)	V_{max} (V)	I_{max} (A)	Time to Trip		Pd_{typ} (W)	R_{min} (Ω)	$R1_{max}$ (Ω)
					(A)	(Sec)			
SRF0603P035LR	0.35	0.70	6	50	8.00	0.10	0.70	0.065	0.420
SRF0603P050LR	0.50	1.00	6	50	8.00	0.10	0.50	0.060	0.350
SRF0603P075LR	0.75	1.50	6	50	8.00	2.00	0.50	0.038	0.250
SRF0603P100LR	1.00	2.00	6	50	8.00	2.00	0.50	0.020	0.100
SRF0603P110LR	1.10	2.20	6	50	8.00	0.30	0.50	0.030	0.120
SRF0603P125LR	1.25	2.50	6	50	8.00	0.40	0.50	0.015	0.095
SRF0603P150LR	1.50	3.00	6	50	8.00	2.00	0.50	0.015	0.085
SRF0603P175LR	1.75	3.50	6	50	8.00	5.00	0.50	0.009	0.070
SRF0603P200LR	2.00	4.00	6	50	8.00	5.00	0.70	0.008	0.065
SRF0603P250LR	2.50	5.00	6	50	8.00	5.00	0.60	0.004	0.050
SRF0603P260LR	2.60	5.20	6	50	8.00	5.00	1.10	0.007	0.060
SRF0603P300LR	3.00	6.00	6	50	8.00	5.00	1.10	0.006	0.055

I_H = Hold current: maximum current at which the device will not trip at 25°C still air.
 I_T = Trip current: minimum current at which the device will always trip at 25°C still air.
 V_{max} = Maximum continuous voltage device can withstand without damage at rated current
 I_{max} = Maximum fault current device can withstand without damage at rated voltage.

T_{trip} = Maximum time to trip(s) at assigned current.
 Pd_{typ} = Typical power dissipation: typical amount of power dissipated by the device when in state air environment.
 R_{min} = Minimum resistance of device in initial (un-soldered) state.
 $R1_{max}$ = Maximum resistance of device at 25°C measured one hour after reflow.

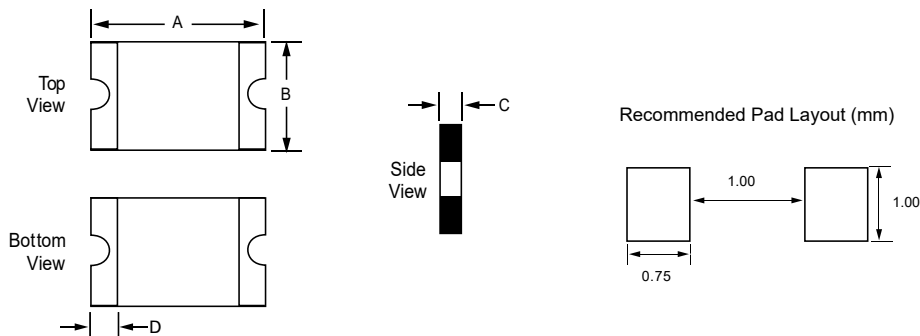
Noted: All electrical function test is conducted after PCB mounted.

Thermal Derating Chart Hold Current (A)

Part Number	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SRF0603P035LR	0.49	0.46	0.40	0.35	0.30	0.26	0.23	0.19	0.14
SRF0603P050LR	0.73	0.66	0.58	0.50	0.43	0.36	0.32	0.28	0.22
SRF0603P075LR	1.05	0.98	0.86	0.75	0.64	0.56	0.49	0.41	0.30
SRF0603P100LR	1.40	1.30	1.15	1.00	0.85	0.75	0.65	0.55	0.40
SRF0603P110LR	1.60	1.40	1.30	1.10	1.00	0.85	0.75	0.65	0.55
SRF0603P125LR	1.82	1.65	1.44	1.25	1.06	0.90	0.80	0.70	0.56
SRF0603P150LR	2.50	2.25	2.00	1.50	1.32	1.15	1.00	0.85	0.60
SRF0603P175LR	2.50	2.25	2.00	1.75	1.50	1.32	1.15	1.00	0.85
SRF0603P200LR	2.80	2.60	2.30	2.00	1.70	1.50	1.30	1.10	0.80
SRF0603P250LR	4.30	3.70	3.15	2.50	2.00	1.85	1.55	1.1	0.90
SRF0603P260LR	4.40	3.80	3.25	2.60	2.10	1.95	1.65	1.20	1.00
SRF0603P300LR	4.40	3.90	3.45	3.00	2.55	2.10	1.95	1.65	1.20

Notes: The temperature derating data is for reference only. Please contact PROSEMI technical support for detail temperature derating information.

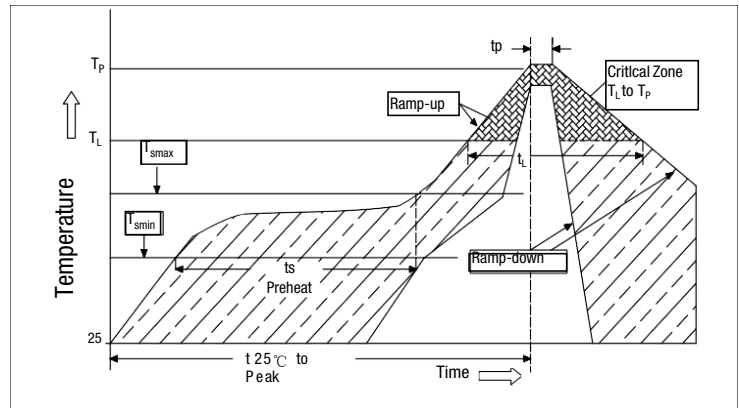
Dimensions (mm)



Part Number	Marking	A		B		C		D
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
SRF0603P035LR	C	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P050LR	F	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P075LR	H	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P100LR	I	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P110LR	I	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P125LR	J	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P150LR	L	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P175LR	O	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P200LR	S	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P250LR	T	1.45	1.85	0.65	1.05	0.35	0.75	0.20
SRF0603P260LR	Z	1.45	1.85	0.65	1.05	0.50	0.90	0.20
SRF0603P300LR	Z	1.45	1.85	0.65	1.05	0.50	0.90	0.20

Solder Reflow Conditions

Reflow Profile	Lead free
Heating rate from T_{smax} to T_p	Max.3°C/second
Pre-heat:	
T_{smin}	150°C
T_{smax}	200°C
T_{smin} to T_{smax}	60~180seconds
Soldering time:	>217°C
Temperature (T_L)	60~150seconds
Time (t_L)	
Peak temperature (T_p)	260°C
Time at Peak temperature ±5°C (t_p)	20~40seconds
Cooling rate	Max.6°C/second
Time from 25°C to Peak Temperature	8 minutes max



Cautions for Reflow:

1. Recommended reflow methods: IR, hot air oven, nitrogen oven;
2. The printed solder thickness is not over 0.25mm, Excess solder may cause a short circuit, especially during hand soldering;
3. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements;
4. Device can not be wave soldered. Please contact Prosemi for hand soldering and dip soldering recommendations;
5. Device can't contact solvent;

Note: All temperature in top chart is measured on the surface of devices.

Packaging Options

I hold(A)	Quantity
0.35~3.00	5,000pcs

Reel packaging per EIA-481-1 standard